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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAPESH YADAV

Appeal 2010-003477
Application 10/698,564
Technology Center 1700

Before CHARLES F. WARREN, KAREN M. HASTINGS, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge* COLAIANNI.

Opinion Concurring-In-Part and Dissenting-In-Part filed by *Administrative Patent Judge* WARREN.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1, 4, 6, 11 through 15, 17, 18, 20, 27, and 31 through 35. Claims 2, 5, 7 through 10, 21 through 23, 25, 26, and 28 through 30, the other claims pending in this application, stand withdrawn

from consideration by the Examiner. We have jurisdiction pursuant to 35 U.S.C. § 6.

We AFFIRM.

STATEMENT OF THE CASE

The subject matter on appeal is directed to a method for manufacturing powder. Claim 1 is illustrative:

1. A method of manufacturing powder comprising:

preparing a mixture of one or more metal-containing precursors and carrier particles to create a slurry precursor;

feeding the slurry precursor to a reaction zone of a high temperature reactor thereby creating a vapor of the slurry precursor;

adding a reactive fluid to the slurry precursor in the reaction zone thereby creating a stream of vaporized slurry precursor and reactive;

processing the stream at high temperature;

cooling the stream to nucleate the slurry precursor thereby creating nucleated nanoscale powders; and

quenching the stream of nucleated nanoscale powders thereby preventing agglomeration and grain growth;

wherein the powder manufactured is a nano-dispersed nanopowder of carrier particles and metal-containing precursor particles that are dispersed on and attached to the surface of the carrier particles.

The Examiner maintains¹ the following rejections:

1) Claims 1, 4, 6, 11-15, 17, 18, 20, 27, and 31-35 are rejected under 35 U.S.C. § 103(a) as unpatentable over Umeya (US 5,489,449, issued Feb. 6, 1996) and Bickmore (US 5,984,997, issued Nov. 16, 1999);

2) Claims 1, 4, 6, 11-15, 17, 18, 20, 27, and 31-35 are rejected under 35 U.S.C. § 103(a) as unpatentable over Bickmore and Umeya;

3) Claims 1, 4, 6, 11-15, 17, 18, 20, 27, and 31-35 are rejected under 35 U.S.C. § 103(a) as unpatentable over König (US 5,356,120, issued Oct. 18, 1994), Holz (US 3,565,676, issued Feb. 23, 1971), and Umeya; and

4) Claims 31-33 are rejected under 35 U.S.C. § 103(a) as unpatentable over König, Holz, and Umeya, and further in view of Bickmore.

With respect to rejections (1) and (2), Appellant's arguments focus on claim 1. Accordingly, we select claim 1 as the representative claim on which to render our decision. *See* 37 C.F.R. § 41.37(c)(1)(vii).

In addition, because the rejections rely on the same references with the only difference being the order of the references in the statement of the rejections, we focus on rejection (1) and thereby address both rejections. *In re Bush*, 296 F.2d 491, 496 (CCPA 1961) (When a rejection is based on a combination of references, the order in which prior art references are cited to the Applicant is of no significance, but merely a matter of exposition).

Rejections (3) and (4) merely reject the same claims based on the same claim construction and same statutory basis as rejections (1) and (2) but with a different combination of prior art (i.e., cumulative rejections).

¹ The Examiner has withdrawn the § 112, first and second paragraph rejections set forth in the Final Office Action mailed April 1, 2009. (*See* Ans. 3).

Because we sustain the Examiner's rejections (1) and (2) for the reasons discussed in this decision and rejections (3) and (4) ultimately raise the same obviousness issue but with a different combination of prior art, we find it unnecessary to address these additional rejections of the same claims.

The majority does not interpret § 41.50(a)(1) in the same manner as the dissent. As the Federal Circuit has held, the Board may interpret Patent Office regulations unless that interpretation is "plainly erroneous or inconsistent with the regulation." *In re Lovin*, 652 F.3d 1349, 1356 (Fed. Cir. 2011).

Our interpretation is not "plainly erroneous or inconsistent with the regulation." Indeed, rule § 41.50(a)(1) further states that "the affirmance of the rejection of a claim on any of the grounds specified constitutes a general affirmance of the decision of the examiner on that claim" Accordingly, the majority affirms rejections (1) and (2) for the reasons discussed *infra* which is a general affirmance of the decision of the Examiner with regard to the claims under review, but declines to address the merely cumulative rejections.

REJECTIONS (1) AND (2)

ISSUE

Did the Examiner reversibly err in determining that Umeya and Bickmore would have rendered obvious a method of manufacturing powder having the step of feeding a mixture of one or more metal-containing precursors and carrier particles into a reactor as required by claim 1 within the meaning of § 103? We decide this issue in the negative.

PRINCIPLES OF LAW

“[A] court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

Selection of the order of mixing ingredients is within the level of skill of the one of ordinary skill in the art and would have been obvious absent proof that the order of the steps produced any new or unexpected result. *In re Burhans*, 154 F.2d 690, 692 (CCPA 1946).

ANALYSIS AND CONCLUSION

Appellant argues that the Examiner erred in maintaining the rejection because none of the applied prior art references teaches or would have suggested feeding a mixture of one or more metal-containing precursors and carrier particles into a reactor as required by claim 1. (App. Br. 15-18). Appellant also argues that Umeya does not teach the cooling and quenching steps required by claim 1. (App. Br. 16 and 18).

Appellant, however, does not dispute the Examiner’s finding that Umeya teaches introducing titanium chloride (corresponding to the claimed metal-containing precursor feature) to a plasma flame to form titanium ultrafines and subsequently introducing diamond particles (corresponding to the claimed carrier particles feature) into the plasma flame to form diamond particles coated with titanium ultrafines. (*Compare* Ans. 3-8 and 14-16 with App. Br. 14-17 and Reply Br. 2).

In addition, we note that Appellant does not argue much less establish that the disputed step required by claim 1 (i.e., feeding a mixture of one or more metal-containing precursors and carrier particles into a reactor) is critical, i.e., it leads to a new, unexpected result. Indeed, the Specification discloses that the slurry precursor may be premixed. (Spec. para. [0060]). Accordingly, Appellant's argument is without persuasive merit.

Thus, we agree with the Examiner (Ans. 4) that it would have obvious to one of ordinary skill in the art, using no more than ordinary creativity, to have arranged Umeya's steps so that the diamond particles are mixed with the titanium chloride prior to being introduced to a plasma flame in order to achieve the desired result (i.e., forming diamond particles coated with titanium ultrafines). *KSR*, 550 U.S. at 418; *see also Burhans*, 154 F.2d at 692.

With respect to Appellant's argument that Umeya does not teach the cooling and quenching steps, Appellant's argument is without persuasive merit because Appellant's argument fails to address the Examiner's stated case which relies on Bickmore to teach the cooling and quenching steps and not Umeya as argued by Appellant.

Accordingly, we sustain the Examiner's rejections (1) and (2).

ORDER

In summary, we sustain rejections (1) and (2). Accordingly, the Examiner's decision is affirmed.

TIME PERIOD

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1).

AFFIRMED

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WARREN, *Administrative Patent Judge*, Concurring-In-Part and
Dissenting-In-Part.

I agree with the majority of this merits panel of the Board to the extent that grounds of rejection (1) and (2) are affirmed, but decline to join the Decision in all other respects.

The majority of this merits panel of the Board has inexplicably “[found] it unnecessary to address” grounds of rejections (3) and (4) and the Order does not address these grounds. Dec. 3-4 and 6. According to the majority, “[r]ejections (3) and (4) merely reject the same claims based on the same claim construction and same statutory basis . . . [and] ultimately raise the same obviousness issue but with a different combination of prior art.” Dec. 3-4. The majority does not identify the “same obviousness issue” and thus, it appears that since an issue involving obviousness has already been addressed under 35 U.S.C. § 103(a) in grounds of rejection (1) and (2), a different obviousness issue involving different facts under that statutory provision raised in grounds of rejection (3) and (4) need not be addressed. The majority does not hold that grounds of rejection (3) and (4) are cumulative to grounds (1) and (2) on the basis that the combined references in the two groups of rejections differ from the claims in the same manner or that the disclosures of the two sets of references are cumulative.² Indeed, Appellant raises different arguments with respect to the different references

² Cf. Manual of Patent Examining Procedure § 706.02, I. Choice of Prior Art; Best Available (“Merely cumulative rejections, i.e., those which would clearly fall if the primary rejection were [sic] not sustained, should be avoided.”).

used in combination in grounds of rejection (3) and (4). App. Br, 19-21; Ans. 11-14 and 17-18.

The record shows that in the Appeal Brief, Appellant includes grounds of rejection (3) and (4) among the grounds presented for review, and includes contentions for all of the grounds of rejection presented including grounds of rejection (3) and (4). App. Br., e.g., 7 and 19-21. 37 C.F.R. § 41.37(c)(1)(vi) and (vii) (2009). In the Answer, the Examiner includes grounds of rejection (3) and (4) among the grounds of rejection necessary to the appeal. Ans. 11-14. 37 C.F.R. § 41.39(a)(1) (2009).

Thus, it is incumbent on this merits panel of the Board to affirm or reverse the decision of the Examiner “on the grounds and on the claims specified by the examiner,” specifying the affirmance or reversal of each ground of rejection. 37 C.F.R. § 41.50(a)(1) (2009).

I find no basis in 37 C.F.R. § 41.50(a)(1) or elsewhere in the rules governing proceedings before the Board of Patent Appeals and Interferences in Ex Parte Appeals Sections 41.30 through 41.54, authorizing the Board to address only one of several grounds of rejection under the same statutory provision involving the same claim. *See* 37 C.F.R. § 41.1(a) (2009) (“Part 41 governs proceedings before the Board of Patent Appeals and Interferences.”).

Indeed, there is no section in the Manual of Patent Examining Procedure which sets forth the practice with respect to a ground of rejection specifically not addressed by the Board.

Accordingly, the action by the majority of this merits panel of the Board with respect to grounds of rejection (3) and (4) is a nullity, and, therefore, the decision by the Board in this Appeal is incomplete.